

DEC 21 2006

Application No: 09/136,483

REMARKS

Claims 1-3, 5-8 and 10-22 are pending. To provide further evidence of the patentability of the claims pending in this application, Applicants have solicited the assistance of Dr. Weidong Li. A Declaration by Dr. Li is attached. Dr. Li researched the issue of the availability of the claimed materials prior to the present application's filing date. He concludes that the materials were not in the public domain.

The supervisory examiner responsible for this application requested that Applicants summarize all aspects of their position. To complete this analysis, Applicants summarize again the issues surrounding the cited Rostoker patents (U.S. 5,389,194 and U.S. 5,626,715). The Rostoker patents discuss the general concepts of using nanoparticles for surface polishing. The Rostoker patents have prophetic examples that do not add anything of relevance to the disclosure. The Rostoker disclosure was based on the use of materials synthesized by an early commercial entrant in the nanotechnology field, Nanophase Technologies Corp., which owned rights in a patent to Siegel et al. (U.S. 5,128,081). The Rostoker patent has a muddled description to describe the particle uniformity, which is not understandable. Applicants have presented a Declaration by an expert in the field, Prof. Singh who described that the Rostoker terminology cannot be properly interpreted due to internal inconsistencies. The only approach to obtain the nanomaterials described in the Rostoker patent is the process of the Siegel patent.

Applicants have presented unrefuted evidence that the process of the Siegel patent cannot make particles with the claimed uniformity of Applicants' materials. In particular, the Siegel patent describes a "nanocrystalline" material with grains disposed within larger agglomerates. The Siegel process is a cold finger approach where vaporized metal is reacted with oxygen in a flow and condensed onto a cold platen and scrapped off. This process produced fused agglomerates with nanocrystals embedded in the agglomerates. Applicants have provided an article published in the Journal de Physique, copy attached showing these fused particles. These

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are for titanium dioxide, but the article describes these particles as being typical of the process. Thus, the Siegel process simply does not result in Applicants' claimed particles compositions. Applicants have attached a copy of a transmission electron micrograph of delta-aluminum oxide particles made through their process for contrast.

Furthermore, Applicants have presented a Declaration by Dr. Nobuyuki Kambe, a founder of NanoGram Corp. and a world renowned expert in nanotechnology. Dr. Kambe asserted that in his wide experience, he was unaware of an available source of the claimed aluminum oxide particles. This evidence is now further supported by the Declaration of Dr. Li, which is attached.

Applicants' have provided an enormous amount of evidence to support patentability. During the extensive prosecution, the office has provided no evidence of any kind to suggest that the claimed materials were in the hands of the public other than the Rostoker patents. With all due respect, it is shocking that Applicants have presented a large amount of un-refuted evidence, and the office has offered absolutely nothing in reply. Applicants respectfully request withdrawal of the pending rejections.

### CONCLUSION

In view of the foregoing, it is submitted that this application is in condition for allowance. Favorable consideration and prompt allowance of the application are respectfully requested.

The Examiner is invited to telephone the undersigned if the Examiner believes it would be useful to advance prosecution.

Respectfully submitted,



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